Civil Aviation Directive (CAD)

Civil Aviation Directive – 6806

Operations Derived Equipment (Commercial Air Transport)

ODE (CAT)
Civil Aviation Authority of Malaysia

Issue 01
Revision 00 – 1st December 2025

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Introduction

In exercise of the powers conferred by section 24O of the Civil Aviation Act 1969 [Act 3], the Chief Executive Officer makes this Civil Aviation Directives (CAD) 6806 – Operations Derived Equipment (Commercial Air Transport), pursuant to Regulation 40, 41, 81, 84, 89, 90, and 91 of the Civil Aviation Regulations 2016 [*P.U.(A) 97/2016*] (CAR 2016).

This CAD provides the procedures, requirements and mandatory obligations pertaining to operations-derived equipment which is equipment or a set of types of equipment which are not part of the type certification of the aircraft installed to meet the operational requirements as required in CAD 6 Part 1, and CAD 6 Part 3 Section II for Malaysian operators operating aircraft for commercial air transport.

This Civil Aviation Directive 6806 – Operations Derived Equipment (Commercial Air Transport) is published by the Chief Executive Officer under section 24O of the Civil Aviation Act 1969 [*Act 3*] and comes into operation on 1 December 2025.

Non-compliance with this CAD

Any person who contravenes any provision in this CAD commits an offence and shall on conviction be liable to the punishments under Section 24O of the Civil Aviation Act 1969 [*Act 3*].

(Dato' Captain Norazman bin Mahmud)
Chief Executive Officer
Civil Aviation Authority of Malaysia

Civil Aviation Directive Components and Editorial Practices

This Civil Aviation Directive is made up of the following components and are defined as follows:

Standards: Usually preceded by words such as *"shall"* or *"must"*, are any specification for physical characteristics, configuration, performance, personnel or procedure, where uniform application is necessary for the safety or regularity of air navigation and to which Operators must conform. In the event of impossibility of compliance, notification to the CAAM is compulsory.

Recommended Practices: Usually preceded by the words such as "*should"* or "*may*", are any specification for physical characteristics, configuration, performance, personnel or procedure, where the uniform application is desirable in the interest of safety, regularity or efficiency of air navigation, and to which Operators will endeavour to conform.

Definitions: Terms used in the Standards and Recommended Practices which are not self-explanatory in that they do not have accepted dictionary meanings. A definition does not have an independent status but is an essential part of each Standard and Recommended Practice in which the term is used, since a change in the meaning of the term would affect the specification.

Tables and Figures: These add to or illustrate a Standard or Recommended Practice and which are referred to therein, form part of the associated Standard or Recommended Practice and have the same status.

Notes: Included in the text, where appropriate, Notes give factual information or references bearing on the Standards or Recommended Practices in question but not constituting part of the Standards or Recommended Practices;

Attachments: Material supplementary to the Standards and Recommended Practices or included as a guide to their application.

It is to be noted that some Standards in this Civil Aviation Directive incorporates, by reference, other specifications having the status of Recommended Practices. In such cases, the text of the Recommended Practice becomes part of the Standard.

The units of measurement used in this document are in accordance with the International System of Units (SI) as specified in CAD 5. Where CAD 5 permits the use of non-SI alternative units, these are shown in parentheses following the basic units. Where two sets of units are quoted it must not be assumed that the pairs of values are equal and interchangeable. It may, however, be inferred that an equivalent level of safety is achieved when either set of units is used exclusively.

Any reference to a portion of this document, which is identified by a number and/or title, includes all subdivisions of that portion.

Throughout this Civil Aviation Directive, the use of the male gender should be understood to include male and female persons.

Record of Revisions

Revisions to this CAD shall be made by authorised personnel only. After inserting the revision, enter the required data in the revision sheet below. The *'Initials'* has to be signed off by the personnel responsible for the change.

ISS/REV No.	Revision Date	Revision Details	Initials

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Summary of Changes

ISS/REV no.	Item No.	Revision Details

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1 General

1.1 Citation

1.1.1 These Directives are the Civil Aviation Directives 6806 – Operations Derived Equipment (Commercial Air Transport), Issue 01/Revision 00, and come into operation on 1st December 2025.

1.1.2 This CAD 6806 – Operations Derived Equipment (Commercial Air Transport), Issue 01/Revision 00 shall remain current until withdrawn or superseded.

1.2 Applicability

1.2.1 This CAD shall be applicable to -

a) an applicant for a certificate of approval under regulation 31(1)(a) of the CAR 2016; or

b) holders of certificate of approval for continuing airworthiness management specified under regulation 31(1)(a) of the CAR 2016, who is the applicant/holder of an air operator certificate under CAD 6004 – Issuance and Renewal Requirements for AOC.

1.3 Revocation

1.3.1 *RESERVED*

1.4 Definitions and Abbreviation

1.4.1 In this CAD, unless the context otherwise requires -

Aircraft shall have the same meaning assigned to it under the CAR 2016;

CAMO means approved continuing airworthiness management organisation which holds a valid certificate of approval granted under regulation 31(1)(a) of the CAR 2016;

Large aircraft means -

a) an aeroplane with a maximum certificated take-off mass exceeding 5,700 kg;

b) an aeroplane equipped with turbojet engines(s); and

c) a rotorcraft with a maximum certificated take-off mass exceeding 3,175 kg.

Operations in performance Class 1 means operations with performance such that, in the event of a critical engine failure, performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, unless the failure occurs prior to reaching the take-off decision point (TDP) or after passing the landing decision point (LDP), in which cases the helicopter must be able to land within the rejected take-off or landing area;

Operations in performance Class 2 means operations with performance such that, in the event of critical engine failure, performance is available to enable the helicopter to safely

continue the flight to an appropriate landing area, except when the failure occurs early during the take-off manoeuvre or late in the landing manoeuvre, in which cases a forced landing may be required;

Operations in performance Class 3 means operations with performance such that, in the event of an engine failure at any time during the flight, a forced landing will be required;

TAWS Class A equipment means equipment could provide indications of imminent contact with the ground for the following conditions—

a) Excessive Rates of Descent;

b) Excessive Closure Rate to Terrain

c) Negative Climb Rate or Altitude Loss After Take-off;

d) Flight into Terrain When Not in Landing Configuration;

e) Excessive downward deviation from an Instrument Landing System (ILS) glideslope, Localizer Performance and Vertical Guidance (LPV), or Global Navigation Satellite System (GNSS) Landing System (GLS) glide path; or

f) Voice callout “Five Hundred” when the airplanes descends to 500 feet above the terrain or nearest runway elevation; and

TAWS Class B equipment means equipment could provide indications of imminent contact with the ground for the following conditions –

a) Excessive Rates of Descent;

b) Negative Climb Rate or Altitude Loss After Take-off; or

c) Voice callout “Five Hundred’ when the airplane descends to 500 feet above the terrain or nearest runway elevation.

1.4.2 Abbreviations

ACAS	=	Aircraft Collision Avoidance System
ATS	=	Air Traffic Services
CAD	=	Civil Aviation Directive
CAR 2016	=	Civil Aviation Regulations 2016
CofA	=	Certificate of Airworthiness
CVR	=	Cockpit Voice Recorder
FDR	=	Flight Data Recorder
HHO	=	Helicopter Hoist Operation

IMC	=	Instrument meteorological condition
IFR	=	Instrument Flight Rule
MCTOM	=	Maximum Certificated Take-Off Mass
MEL	=	Minimum Equipment List
MOPSC	=	Maximum operating passenger seating configuration
PBN	=	Performance Based Navigation
PCDS	=	Personnel-carrying device system
TAWS	=	Terrain Avoidance Warning System
VFR	=	Visual Flight Rule

2 Application

2.1 Responsibility

2.1.1 The operator is responsible to ensure that the aircraft prior commencing its first commercial flight or in the event of any role change during operation, to obtain the approval of the operations-derived equipment.

2.1.2 The operator is responsible to ensure all aircraft instruments, items of equipment or functions required for the intended flight are serviceable prior to the flight unless—

a) approval has been granted by CAAM; or

b) the aircraft is operating under the approved Minimum Equipment List limitations.

2.2 Application for the approval of operations-derived equipment

2.2.1 No operator shall fly Malaysian registered aircraft unless the types of equipment required for the operations of the aircraft—

a) installed in accordance with the requirements prescribed in the CAD 8102, CAD 8105, CAD 8107, CAD 8108 and CAD 8109; and

b) approval of the applications and declarations made using form CAAM/AW/6806-01 has been obtained from CAAM.

2.2.2 The validity of the approval is subject to the following conditions –

a) no changes shall be made to the specific equipment configuration of the aircraft;

b) no installation that could impair the current configurations of the aircraft; and

c) while the aircraft is continuously registered in Malaysia.

3 Instrument and Equipment for Aeroplane

3.1 General Instrument and equipment required for aeroplane

3.1.1 Instruments and equipment required by this chapter shall be approved in accordance with the applicable airworthiness requirements except for the items listed in paragraph 6.2.2.1 of CAD 6 Part 1.

3.1.2 Instruments and equipment not required under this CAD as well as any other equipment which is not required under this CAD, but carried on a flight, shall comply with the following requirements—

a) the information provided by those instruments, equipment or accessories shall not be used by the flight crew members to comply with paragraphs 3.39, 3.40, 3.41 and 3.42 of this CAD.

b) the instruments and equipment shall not affect the airworthiness of the aeroplane, even in the case of failures or malfunction.

3.1.3 If equipment is to be used by one flight crew member at his station during flight, it shall be readily operable from that station. When a single item of equipment is required to be operated by more than one flight crew member it shall be installed so that the equipment is readily operable from any station at which the equipment is required to be operated.

3.1.4 Those instruments that are used by any flight crew member shall be so arranged as to permit the flight crew member to see the indications readily from his station, with the minimum practicable deviation from the position and line of vision that he normally assumes when looking forward along the flight path.

3.1.5 All required emergency equipment shall be easily accessible for immediate use.

3.2 Minimum equipment for flight

3.2.1 A flight shall not be commenced when any of the aeroplane's instruments, items of equipment or functions required for the intended flight are inoperative or missing, unless the aeroplane is operated in accordance with the operator's MEL approved by the State of Operator.

3.3 Spare electrical fuses

3.3.1 Aeroplanes shall be equipped with spare electrical fuses, of the ratings required for complete circuit protection, for replacement of those fuses that are allowed to be replaced in flight.

3.3.2 Refer to paragraph 6.2.9 of CAD 6 Part 1 for requirements.

3.4 Operating lights

3.4.1 Aeroplanes that are operated by day shall be equipped with—

a) an anti-collision light system;

b) lighting supplied from the aeroplane's electrical system to provide adequate illumination for all instruments and equipment essential to the safe operation of the aeroplane;

c) lighting supplied from the aeroplane's electrical system to provide illumination in all passenger compartments; and

d) an independent portable light for each required crew member readily accessible to crew members when seated at their designated stations.

3.4.2 Aeroplanes that are operated at night shall in addition be equipped with—

a) navigation/position lights;

b) two landing lights or a single light having two separately energised filaments; and

c) lights to conform with the Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs) under the International Maritime Organization, if the aeroplane is operated as a seaplane.

3.4.3 Refer to Appendix 1 of CAD 6 Part 1 for requirements.

3.5 Equipment to clear windshield

3.5.1 Aeroplanes with an MCTOM of more than 5,700 kg shall be equipped at each pilot station with a means to maintain a clear portion of the windshield during precipitation.

3.6 Operations under VFR by day – flight and navigational instruments and associated equipment

3.6.1 Refer to paragraph 6.4 of CAD 6 Part 1 for requirements.

3.7 Operations under IFR or at night – flight and navigational instruments and associated equipment

3.7.1 Refer to paragraphs 6.9 and 6.10 of CAD 6 Part 1 for requirements.

3.7.2 No operations under IFR shall be commenced for operations involving single pilot unless paragraph 4.9 of CAD 6 Part 1 is complied with.

3.8 Runway overrun awareness and alerting system (ROAAS)

3.8.1 Refer to paragraph 6.26 of CAD 6 Part 1 for requirements.

3.9 Altitude alerting system

3.9.1 Refer to paragraph 6.20 of CAD 6 Part 1 for requirements.

3.10 Terrain awareness warning system (TAWS)/ Ground Proximity Warning Systems (GPWS)

3.10.1 Refer to paragraph 6.15 of CAD 6 Part 1 for requirements.

3.11 Airborne collision avoidance system (ACAS II)

3.11.1 Refer to paragraph 6.19 of CAD 6 Part 1 for requirements.

3.12 Airborne weather detecting equipment

3.12.1 Refer to paragraph 6.11 of CAD 6 Part 1 for requirements.

3.13 Additional equipment for operations in icing conditions at night

3.13.1 Refer to paragraph 6.8 of CAD 6 Part 1 for requirements.

3.13.2 Aeroplanes that are operated in expected or actual icing conditions at night shall be equipped with a means to illuminate or detect the formation of ice.

3.13.3 The means to illuminate the formation of ice shall not cause glare or reflection that would handicap crew members in the performance of their duties.

3.14 Flight crew interphone system

3.14.1 Refer to paragraph 6.21.3 of CAD 6 Part 1 for requirements.

3.15 Crew member interphone system

3.15.1 Refer to paragraphs 6.21.4 and 6.215 of CAD 6 Part 1 for requirements.

3.16 Public address system

3.16.1 Refer to paragraph 6.21.6 of CAD 6 Part 1 for requirements.

3.17 Cockpit voice recorder

3.17.1 Refer to paragraph 6.3.2 of CAD 6 Part 1 for requirements.

3.18 Flight data recorder

3.18.1 Refer to paragraph 6.3.1 of CAD 6 Part 1 for requirements.

3.19 Lightweight flight recorder

3.19.1 Turbine-engined aeroplanes with an MCTOM of 2,250 kg or more and aeroplanes with an MOPSC of more than 9 person shall be equipped with a flight recorder if all of the following conditions are met:

a) they are not within the scope of paragraph 3.18 of this CAD; and

b) they are first issued with an individual CofA on or after 5 September 2022.

3.19.2 The flight recorder shall record, by means of flight data or images, information that is sufficient to determine the flight path and aircraft speed.

3.19.3 The flight recorder shall be capable of retaining the flight data and recorded images for a minimum of the preceding 5 hours.

3.19.4 The flight recorder shall automatically start to record prior to the aeroplane being capable of moving under its own power and shall stop automatically after the aeroplane is no longer capable of moving under its own power.

3.19.5 If the flight recorder records images or audio of the flight crew compartment, then a function shall be provided which can be operated by the commander and which modifies image and audio recordings made before the operation of that function, so that those recordings cannot be retrieved using normal replay or copying techniques.

3.20 Data link recording

3.20.1 Operator shall comply with paragraph 6.3.3 of CAD 6 Part 1 for the requirements of data link recorder.

3.20.2 Aeroplanes that have the capability to operate data link communications and are required to be equipped with a CVR, shall record on a recorder, where applicable:

a) data link communication messages related to ATS communications to and from the aeroplane, including messages applying to the following applications:

1) data link initiation;

2) controller-pilot communication;

3) addressed surveillance;

4) flight information;

5) as far as is practicable, given the architecture of the system, aircraft broadcast surveillance;

6) as far as is practicable, given the architecture of the system, aircraft operational control data; and

7) as far as is practicable, given the architecture of the system, graphics;

b) information that enables correlation to any associated records related to data link communications and stored separately from the aeroplane; and

c) information on the time and priority of data link communications messages, taking into account the system's architecture.

3.20.3 The recorder shall use a digital method of recording and storing data and information and a method for retrieving that data. The recording method shall allow the data to match the data recorded on the ground.

3.20.4 The recorder shall be capable of retaining data recorded for at least the same duration as set out for CVRs in paragraph 3.17 of this CAD.

3.20.5 If the recorder is not deployable, it shall have a device to assist in locating it under water. By 16 June 2018 at the latest, this device shall have a minimum underwater transmission time of 90 days. If the recorder is deployable, it shall have an automatic emergency locator transmitter.

3.20.6 The requirements applicable to the start and stop logic of the data link recorder are the same as the requirements applicable to the start and stop logic of the cockpit voice recorder (CVR) that are contained in paragraph 3.17 of this CAD.

3.21 Combination recorder

3.21.1 Refer to paragraph 6.3.5.5 of CAD 6 Part 1 for requirements.

3.22 Seats, seat safety belts, restraint systems and child restraint devices

3.22.1 Refer to paragraph 6.2.6 of CAD 6 Part 1 for requirements.

3.23 Fasten seat belt and no smoking signs

3.23.1 Aeroplanes in which not all passenger seats are visible from the flight crew seat(s) shall be equipped with a means of indicating to all passengers and cabin crew when seat belts shall be fastened and when smoking is prohibited.

3.24 Internal doors and curtains

3.24.1 Aeroplanes shall be equipped with:

a) in the case of aeroplanes with a MOPSC of more than 19 person, a door between the passenger compartment and the flight crew compartment, with a placard indicating 'crew only' and a locking means to prevent passengers from opening it without the permission of a member of the flight crew;

b) a readily accessible means for opening each door that separates a passenger compartment from another compartment that has emergency exits;

c) a means for securing in the open position any doorway or curtain separating the passenger compartment from other areas that need to be accessed to reach any required emergency exit from any passenger seat;

d) a placard on each internal door or adjacent to a curtain that is the means of access to a passenger emergency exit, to indicate that it shall be secured open during take-off and landing; and

e) a means for any member of the crew to unlock any door that is normally accessible to passengers and that can be locked by passengers.

3.25 First-aid kit

3.25.1 Refer to paragraphs 6.2.3.4 an 6.2.3.5 of CAD 6 Part 1 for requirements.

3.26 Universal precaution kit

3.26.1 Refer to paragraph 6.2.3.1 CAD 6 Part 1 for requirements.

3.27 Emergency medical kit

3.27.1 Refer to paragraphs 6.2.3.2 and 6.2.3.3 of CAD 6 Part 1 for requirements.

3.28 First-aid oxygen

3.28.1 Refer to paragraph 4.3.9.3 of CAD 6 Part 1 for requirements.

3.29 Supplemental oxygen – pressurised aeroplanes

3.29.1 Refer to paragraphs 4.3.9.1 and 6.7 of CAD 6 Part 1 for requirements.

3.30 Supplemental oxygen – non-pressurised

3.30.1 Refer to paragraphs 4.3.9.2 and 6.7 of CAD 6 Part 1 for requirements.

3.31 Crew protective breathing equipment

3.31.1 Refer to paragraph 6.27 of CAD 6 Part 1 for requirements.

3.32 Hand fire extinguishers

3.32.1 Refer to paragraph 6.2.4 of CAD 6 Part 1 for requirements.

3.33 Crash axe and crowbar

3.33.1 Aeroplanes with an MCTOM of more than 5,700 kg or with a MOPSC of more than 9 person shall be equipped with at least one crash axe or crowbar located in the flight crew compartment.

3.33.2 In the case of aeroplanes with an MOPSC of more than 200 person, an additional crash axe or crowbar shall be installed in or near the rearmost galley area.

3.33.3 Crash axes and crowbars located in the passenger compartment shall not be visible to passengers.

3.34 Megaphones

3.34.1 Refer to paragraph 6.2.5 of CAD 6 Part 1 for requirements.

3.35 Emergency locator transmitter (ELT)

3.35.1 Refer to paragraph 6.17 of CAD 6 Part 1 for requirements.

3.36 Flight over water

3.36.1 Refer to paragraph 6.5 of CAD 6 Part 1 for requirements.

3.37 Survival equipment

3.37.1 Refer to paragraph 6.6 of CAD 6 Part 1 for requirements for all aeroplanes on flights over designated areas.

3.38 Headset

3.38.1 Aeroplanes shall be equipped with a headset with a boom or throat microphone or equivalent for each flight crew member at their assigned station in the flight crew compartment.

3.38.2 Aeroplanes operated under IFR or at night shall be equipped with a transmit button on the manual pitch and roll control for each required flight crew member.

3.39 Radio communication equipment

3.39.1 Refer to paragraph 7.1 of CAD 6 Part 1 for requirements.

3.40 Audio selector panel

3.40.1 Aeroplanes operated under IFR shall be equipped with an audio selector panel operable from each required flight crew member station.

3.41 Radio equipment for operations under VFR over routes navigated by reference to visual landmarks

3.41.1 Aeroplanes operated under VFR over routes navigated by reference to visual landmarks shall be equipped with radio communication equipment necessary under normal radio propagation conditions to fulfil the following:

a) communicate with appropriate ground stations;

b) communicate with appropriate ATC stations from any point in controlled airspace within which flights are intended; and

c) receive meteorological information.

3.42 Communication, navigation and surveillance equipment for operations under IFR or under VFR over routes not navigated by reference to visual landmarks

3.42.1 Aeroplanes operated under IFR or under VFR over routes that cannot be navigated by reference to visual landmarks shall be equipped with radio communication, navigation and surveillance equipment in accordance with the applicable airspace requirements.

3.42.2 Radio communication equipment shall include at least two independent radio communication systems necessary under normal operating conditions to communicate with an appropriate ground station from any point on the route, including diversions.

3.42.3 Notwithstanding paragraph 3.42.2 of this CAD, aeroplanes operated for short haul operations in the North Atlantic high-level (NAT HLA) airspace and not crossing the North Atlantic shall be equipped with at least one long range communication system, in case alternative communication procedures are published for the airspace concerned.

3.42.4 Aeroplanes shall have sufficient navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment shall allow safe navigation in accordance with the flight plan.

3.42.5 Aeroplanes that are operated on flights in which it is intended to land in IMC shall be equipped with suitable equipment capable of providing guidance to a point from which a visual landing can be performed for each aerodrome at which it is intended to land in IMC and for any designated alternate aerodrome.

3.42.6 For PBN operations the aircraft shall meet the airworthiness certification requirements for the appropriate navigation specification.

3.43 Transponder

3.43.1 Aeroplanes shall be equipped with a pressure altitude reporting secondary surveillance radar (SSR) transponder and any other SSR transponder capability required for the route being flown.

3.43.2 Refer to Paragraph 6.20 of CAD 6 Part 1 for requirements.

3.44 Navigation equipment

3.44.1 Refer to paragraph 7.2.1 of CAD 6 Part 1 for requirements.

3.44.2 Installation of the equipment shall be in accordance with paragraph 7.4 of CAD 6 Part 1.

3.45 Mach number indicator

3.45.1 Refer to paragraph 6.14 of CAD 6 Part 1 for requirements.

3.46 Turbo-jet aeroplanes – forward looking wind shear warning system

3.46.1 Refer to paragraph 6.22 of CAD 6 Part 1 for requirements.

4 Instrument and Equipment for Helicopters

4.1 General Instrument and equipment required for helicopters

4.1.1 Instruments and equipment required by this paragraph shall be approved in accordance with the applicable airworthiness requirements, except for the following items:

a) independent portable lights;

b) an accurate time piece;

c) chart holder;

d) first-aid kit;

e) megaphones;

f) survival and signalling equipment;

g) sea anchors and equipment for mooring;

h) child restraint devices.

4.1.2 Instruments and equipment not required under this CAD, but carried on a flight, shall comply with the following requirements:

a) the information provided by those instruments, equipment or accessories shall not be used by the flight crew members to comply with paragraphs 4.32, 4.33, 4.34 and 4.35 of this CAD;

b) the instruments and equipment shall not affect the airworthiness of the helicopter, even in the case of failures or malfunction.

4.1.3 If equipment is to be used by one flight crew member at his/her station during flight, it shall be readily operable from that station. When a single item of equipment is required to be operated by more than one flight crew member it shall be installed so that the equipment is readily operable from any station at which the equipment is required to be operated.

4.1.4 Those instruments that are used by any flight crew member shall be so arranged as to permit the flight crew member to see the indications readily from his/her station, with the minimum practicable deviation from the position and line of vision that he/she normally assumes when looking forward along the flight path.

4.1.5 All required emergency equipment shall be easily accessible for immediate use.

4.2 Operating lights

4.2.1 Helicopters operated under VFR by day shall be equipped with an anti-collision light system.

4.2.2 Helicopters operated at night or under IFR shall, in addition to paragraph 4.2.1 of this CAD, be equipped with:

a) lighting supplied from the helicopter's electrical system to provide adequate illumination for all instruments and equipment essential to the safe operation of the helicopter;

b) lighting supplied from the helicopter's electrical system to provide illumination in all passenger compartments;

c) an independent portable light for each required crew member readily accessible to crew members when seated at their designated stations;

d) navigation/position lights;

e) two landing lights of which at least one is adjustable in flight so as to illuminate the ground in front of and below the helicopter and the ground on either side of the helicopter; and

f) lights to conform with the International Regulations for Preventing Collisions at Sea if the helicopter is amphibious.

4.3 Operations under VFR by day – flight and navigational instruments and associated equipment

4.3.1 Refer to paragraphs 4.4.1 and 4.4.2 of CAD 6 Part 3 Section II for requirements.

4.4 Operations under IFR or at night – flight and navigational instruments and associated equipment

4.4.1 Refer to paragraphs 4.4.3 and 4.4.4 of CAD 6 Part 3 Section II for requirements.

4.5 Additional equipment for single-pilot operation under IFR

4.5.1 Refer to paragraph 4.4.5 of CAD 6 Part 3 Section II for requirements.

4.6 Radio altimeters

4.6.1 Helicopters on flights over water shall be equipped with a radio altimeter capable of emitting an audio warning below a pre-set height and a visual warning at a height selectable by the pilot, when operating:

a) out of sight of the land;

b) in a visibility of less than 1,500 m;

c) at night; or

d) at a distance from land corresponding to more than three minutes at normal cruising speed.

4.7 Helicopters when carrying passenger - airborne weather detecting equipment

4.7.1 Refer to paragraph 4.10.1 of CAD 6 Part 3 Section II for requirements.

4.8 Additional equipment for operations in icing conditions at night

4.8.1 Refer to paragraph 4.9 of CAD 6 Part 3 Section II for requirements.

4.9 Flight crew interphone system

4.9.1 Helicopters operated by more than one flight crew member shall be equipped with a flight crew interphone system, including headsets and microphones for use by all flight crew members.

4.10 Crew member interphone system

4.10.1 Helicopters shall be equipped with a crew member interphone system when carrying a crew member other than a flight crew member.

4.11 Public address system

4.11.1 Helicopters with an MOPSC of more than 9 person shall be equipped with a public address system, with the exception of 4.11.2 of this CAD.

4.11.2 Notwithstanding paragraph 4.11.1 of this CAD helicopters with an MOPSC of more than 9 person and less than 20 person are exempted from having a public address system, if:

a) the helicopter is designed without a bulkhead between pilot and passengers; and

b) the operator is able to demonstrate that when in flight, the pilot's voice is audible and intelligible at all passengers' seats.

4.12 Cockpit voice recorder

4.12.1 Refer to paragraph 4.3.2 of CAD 6 Part 3 Section II for requirements.

4.13 Flight data recorder

4.13.1 Refer to paragraph 4.3.1 of CAD 6 Part 3 Section II for requirements.

4.14 Lightweight flight recorder

4.14.1 Turbine-engined helicopters with an MCTOM of 2,250 kg or more shall be equipped with a flight recorder if all of the following conditions are met:

a) they are not within the scope of paragraph 4.13 of this CAD;

b) they are first issued with an individual CofA on or after 5 September 2022.

4.14.2 The flight recorder shall record, by means of flight data or images, information that is sufficient to determine the flight path and aircraft speed.

4.14.3 The flight recorder shall be capable of retaining the flight data and the images recorded during at least the preceding 5 hours.

4.14.4 The flight recorder shall automatically start to record prior to the helicopter being capable of moving under its own power and shall stop automatically after the helicopter is no longer capable of moving under its own power.

4.14.5 If the flight recorder records images or audio of the flight crew compartment, then a function shall be provided which can be operated by the commander and which modifies image and audio recordings made before the operation of that function, so that those recordings cannot be retrieved using normal replay or copying techniques.

4.15 Data link recording

4.15.1 Refer to paragraph 4.3.3 of CAD 6 Part 3 Section II for requirements.

4.16 Flight data and cockpit voice combination recorder

4.16.1 Compliance with CVR and FDR requirements may be achieved by the carriage of one combination recorder.

4.16.2 A flight data and cockpit voice combination recorder is a flight recorder that records:

c) all voice communications and the aural environment required by paragraph 4.12 of this CAD regarding CVRs; and

d) all parameters required by paragraph 4.13 of this CAD regarding FDRs, with the same specifications required by those paragraphs.

4.16.3 In addition, a flight data and cockpit voice combination recorder may record data link communication messages and related information required by paragraph 4.15 of this CAD.

4.17 Seats, seat safety belts, restraint systems and child restraint devices

4.17.1 Refer to paragraph 4.2.2(c) of CAD 6 Part 3 Section II for requirements.

4.18 Fasten seat belt and no smoking signs

4.18.1 Helicopters in which not all passenger seats are visible from the flight crew seat(s) shall be equipped with a means of indicating to all passengers and cabin crew when seat belts shall be fastened and when smoking is prohibited.

4.19 First-aid kits

4.19.1 First-aid kits shall be equipped in accordance with the requirements under paragraph 4.2.2(a)(1) of CAD 6 Part 3 Section II.

4.19.2 Helicopters shall be equipped with at least one first-aid kit.

4.20 Universal precaution kits

4.20.1 Refer to paragraph 4.2.2(a)(2) of CAD 6 Part 3 Section II for requirements.

4.21 Supplemental oxygen – non-pressurised helicopters

4.21.1 Refer to paragraph 4.8 of CAD 6 Part 3 Section II for requirements.

4.22 Hand fire extinguishers

4.22.1 Refer to paragraph 4.2.2(b) of CAD 6 Part 3 Section II for requirements.

4.23 Megaphones

4.23.1 Refer to paragraph 4.2.3(d) of CAD 6 Part 3 Section II for requirements.

4.24 Emergency locator transmitter (ELT)

4.24.1 Refer to paragraph 4.7 of CAD 6 Part 3 Section II for requirements.

4.25 Life-jackets

4.25.1 Refer to paragraphs 4.5.2.1(a), 4.5.2.2, and 4.5.2.5 of CAD 6 Part 3 Section II for requirements

4.26 Crew survival suits

4.26.1 Each crew member shall wear a survival suit when operating in performance class 3 on a flight over water beyond autorotational distance or safe forced landing distance from land, when the weather report or forecasts available to the commander indicate that the sea temperature will be less than plus 10°C during the flight.

4.27 Life-rafts, survival ELTs and survival equipment on extended overwater flights

4.27.1 Life-rafts shall be equipped in accordance with the requirements under paragraph 2.12.14.4 of CAD 6 Part 3 Section II for offshore operation.

4.27.2 For other type of overwater flights, refer to paragraphs 4.5.2.1(b), (c), (d), (e) and (f) of CAD 6 Part 3 Section II for requirements.

4.28 Survival equipment

4.28.1 Refer to paragraph 4.6 of CAD 6 Part 3 Section II for requirements.

4.29 Helicopters certified for operating on water – miscellaneous equipment

4.29.1 Helicopters certified for operating on water shall be equipped with:

a) a sea anchor and other equipment necessary to facilitate mooring, anchoring or manoeuvring the helicopter on water, appropriate to its size, mass and handling characteristics; and

b) equipment for making the sound signals prescribed in the Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs) under the International Maritime Organization, where applicable.

4.30 All helicopters on flights over water – ditching

4.30.1 Refer to paragraph 4.5 of CAD 6 Part 3 Section II for requirements.

4.30.2 Helicopters shall be designed for landing on water or certified for ditching in accordance with the relevant certification specification or fitted with emergency flotation equipment when operated in:

a) performance class 1 or 2 on a flight over water in a non-hostile environment at a distance from land corresponding to more than 10 minutes flying time at normal cruise speed;

b) performance class 2, when taking off or landing over water, except in the case of helicopter emergency medical services (HEMS) operations, where for the purpose of minimising exposure, the landing or take-off at a HEMS operating site located in a congested environment is conducted over water;

c) performance class 3 on a flight over water beyond safe forced landing distance from land.

4.31 Headset and microphones

4.31.1 Refer to paragraphs 4.14.1, 4.14.2 and 4.14.3 of CAD 6 Part 3 Section II for requirements.

4.32 Radio communication equipment

4.32.1 Refer to paragraph 5.1 of CAD 6 Part 3 Section II for requirements.

4.33 Audio selector panel

4.33.1 Refer to paragraph 4.14.7 CAD 6 Part 3 Section II for requirements.

4.34 Radio equipment for operations under VFR over routes navigated by reference to visual landmarks

4.34.1 Refer to paragraph 5.1.6 of CAD 6 Part 3 Section II for requirements.

4.35 Communication, navigation and surveillance equipment for operations under IFR or under VFR over routes not navigated by reference to visual landmarks

4.35.1 Refer to paragraph 5.1.7 of CAD 6 Part 3 Section II for requirements.

4.36 Transponder

4.36.1 Refer to paragraph 4.13 of CAD 6 Part 3 Section II for requirements.

4.36.2 Helicopters shall be equipped with a pressure altitude reporting secondary surveillance radar (SSR) transponder and any other SSR transponder capability required for the route being flown.

4.37 Vibration health monitoring system

4.37.1 Refer to paragraph 4.15 of CAD 6 Part 3 Section II for requirements.

4.38 Helicopters equipped with automatic landing systems, a Head-Up Display (HUD) or equivalent displays, Enhanced Vision Systems (EVS), Synthetic Vision Systems (SVS) and/or Combined Vision Systems (CVS).

4.38.1 Refer to paragraph 4.16 of CAD 6 Part 3 Section II for requirements.

4.39 Hoist equipment

4.39.1 The installation of all helicopter hoist equipment other than a simple PCDS, including any radio equipment to comply with II paragraph 2.10.4 of CAD 6 Part 3 Section, and any subsequent modifications, shall have an airworthiness approval appropriate to the intended function. Ancillary equipment shall be designed and tested to the appropriate standard as required by the CAAM.

4.39.2 Maintenance instructions for HHO equipment and systems shall be established by the operator in liaison with the manufacturer and included in the aircraft maintenance programme.

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